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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,085	08/14/2000	STEPHEN JACOBS	A31222-PCTUSA	3842

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EXAMINER

MEHRA, INDER P

ART UNIT PAPER NUMBER

2616

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/530,085	<b>Applicant(s)</b> JACOBS ET AL.	
	<b>Examiner</b> Inder P. Mehra	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |                                                                                              |                                                                             |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:                                          |

## DETAILED ACTION

### *Response to Amendment*

1. This is in response to amendment dated: 3/2/06 accompanied by amendment dated 11/17/05, which has been fully considered and made of record. Based on this amendment, claims 1, 13 and 25 have been amended., Claims 1-36 are now pending.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed 3/2/06 in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/17/05 has been entered.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-13, 15-25, and 27-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Keshav** (US Patent No. 5,627,970) in view of **Yin et al** (US Patent No. 6,490,251), hereinafter, Yin.

For claims 1, 6, 9, 11, 13, 18, 21, 23, 25, 30, 33 and 35, Keshav discloses "A method for transmitting data from a sender to a receiver in a digital communications network, maintaining a

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current estimate of bandwidth available from the sender to the receiver', (refer to abstract, col. 1 lines 5-11 and col. 2 lines 65-67), comprising the steps of:

- maintaining a current estimate of bandwidth available from the sender to the receiver, (***maintaining data transmission rates (B/W*** refer to abstract, col. 2 lines 65-67, col. 6 lines 12-15, col. 7 lines 11-13); and
- withholding some of the data input for transmission (**each node regulates its own traffic, fitting its data transmission rate within a particular behavioral range, refer to col. 1 lines 32-33, transmit data packets at adaptive (real time) exponential transmission rate, block 502 fig. 5) in real time (adaptive/dynamically adjusted, col. 6 lines 27-30) based on the current estimate of available bandwidth (optimal set point, col. 6 lines 29-31) and processing requirement (corresponding to optimal operating set point is a data transmission rate where data buffers are neither overflow or underflowing has not been reached, col. 6 lines 20-21, and abstract) at the receiver in order to maintain a an acceptable sequence of data received by the receiver (next data packet position within a sequence of previously transmitted data packets, refer to col. 3 lines 9-11) that is consistent with the processing requirement (wherein data buffers are neither overflowing nor underflowing, refer to abstract and col. 2 lines 5-7) at the receiver;**
- wherein maintaining a the current estimate of bandwidth available (col. 2 lines 65-67) comprises a measure of congestion, (**each node regulates its own traffic, fitting its data transmission rate within a particular behavioral**

range, refer to col. 1 lines 32-33, queue is arranged in the order of high priority and low priority, col. 8 lines 40-45).

- Adapting bandwidth required by the data , as recited by claims 11, 23 and 35, (refer to “*adaptive transmission rates (B/W)*”, refer to abstract and step 502 in fig. 5, *adjust data transmission rate* col. 1 lines 60-62), col. 6 lines 15-19, “*dynamically adjusted*”, col. 6 lines 25-31, col. 7 lines 5-15.

Keshav does not disclose expressly the following limitations, which are disclosed by Yin, as follows;

- “wherein withholding some of the data input for transmission in real time comprises dropping a selected data frame consistent with the processing requirement at the receiver”, (when the network becomes congested, for example, when an intermediate system in the network (ATM) becomes overloaded due to unavailable bandwidth or lack of buffer space, TCP packets(source network) may be dropped, refer to col. 2 line 65 through col. 3 line 3, and col. 14 lines 15-25).
- Wherein upper bound is as specified by the TCP congestion window, as recited by claims 6, 9, 18, 21, 30 and 33, (col. 1 lines 30-35 and 40-42)

It would have been obvious to a person of ordinary skill in the art at the time of invention to compress video data before transmission across the network. A person of ordinary skill in the art would have been motivated to employ Yin’s apparatus for communicating congestion, into Keshav’s system for a method and apparatus for achieving and maintaining optimum

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transmission rates in order to compress video data for transmission. The suggestion/motivation to do so would have been to optimize the use of bandwidth and storage space.

For claims 3, 15, and 27, the system of Keshav monitors packet loss based on acknowledgments from the receiver(destination node), refer to col. 7 line 60 through col. 8 line 5;

For claims 4, 7, 16, 19, 28 and 31, Keshav discloses maintenance of count of packet/bytes, (determining data packet loss, refer to col. 7 lines 62);

For claims 5, 8, 17, 20, 29, and 32, Keshav discloses “wherein, in maintaining the current estimate of bandwidth, the sender maintains current an upper bound on how many packets are allowed to be outstanding”, (The optimal operating point is a data transmission rate wherein data buffers are neither overflowing nor under-flowing, abstract, and col. 2 lines 4-6).

For claims 10, 12, 22, 24, 34, and 36, the system of Keshav also retransmits a packet which has been determined by the receiver as having been lost in transmission or received in error, refer to col. 8 lines 32-33.

5. Claims 2, 14, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keshav, in view of Yin, as applied to claims 1, 13 and 25 above, and further in view of **Gittins et al** (US Patent no. 5,526,350), hereinafter, Gittins.

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For claims 2, 14, and 26, Keshav in view of Yin disclose all the features of the subject matter, with the exception of the following limitation of claims, which is disclosed by Gittins, as follows:

- data comprises video data, refer to col. 7 line 21-23;

It would have been obvious to a person of ordinary skill in the art at the time of invention to compress video data before transmission across the network. A person of ordinary skill in the art would have been motivated to employ Gittins's communication network into Keshav's system for a method and apparatus for achieving and maintaining optimum transmission rates in order to compress video data for transmission. The suggestion/motivation to do so would have been to optimize the use of bandwidth and storage space.

### ***Response to Arguments***

6. Applicant's arguments filed 1/10/2005 have been fully considered but they are not persuasive.

Applicants' respectfully submit that at least these elements of the claims are not shown, taught or suggested by the cited references - Keshav, Derby, and Jin, whether taken individually or in combination. For example, none of the cited references shows, teaches, or suggests dropping select data frames or select block coefficients in response to network congestion in a manner that ensures the usefulness of received data set.

In response, it is stated that Keshav in view of Yin disclose all the limitations of independent claims, see office action above. Dropping selected data is explicitly disclosed by Yin, when the network becomes congested, for example, when an intermediate system in the network

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becomes overloaded due to unavailable bandwidth or lack of buffer space, TCP packets may be dropped, refer to col. 2 line 65 through col. 3 line 3, and col. 14 lines 15-25). “select block coefficients” is not claimed by applicant as limitation of the claim.

Applicant argues, “In particular, like Keshav and Derby, Yin does not show, teach or suggest withholding some of the input data for “uncongested transmission in a manner which ensures that the delivered data sequences are consistent with processing requirements at the receiver.

Further, it is stated that Derby is not being used as prior art. Further, **each node regulates its own traffic, fitting its data transmission rate within a particular behavioral range (same as withholding some of the data input for transmission, refer to Keshove’s col. 1 lines 32-33, transmit data packets at adaptive (real time) exponential transmission rate, block 502 fig. 5) in real time (adaptive/dynamically adjusted, col. 6 lines27-30) based on the current estimate of available bandwidth (optimal set point, col. 6 lines29-31) and processing requirement (Refer to Yin’s reference, “when an intermediate system in the network (ATM) becomes overloaded due to unavailable bandwidth or lack of buffer space, TCP packets (source network) may be dropped, refer to col. 2 line 65 through col. 3 line 3, and col. 14 lines 15-25). at the receiver (ATM network) in order to maintain a an acceptable sequence of data received by the receiver (next data packet position within a sequence of previously transmitted data packets, refer to col. 3 lines 9-11) that is consistent with the processing requirement (buffers at ATM network are not overloaded or bandwith is available at ATM network) at the receiver;**



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**In the light of above explanation, arguments by applicant are not persuasive.**

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P. Mehra whose telephone number is 571-272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Inder Pal Mehra 5/1/06*  
Inder P Mehra  
Examiner  
Art Unit 2616

*Seema S. Rao 5/1/06*  
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